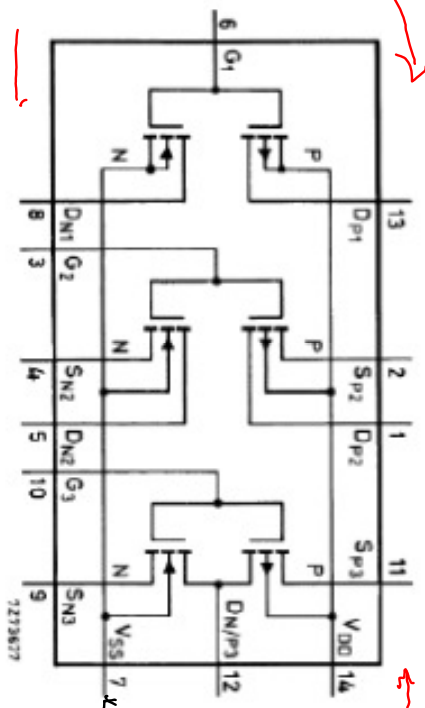


proportions
intermed. &
diodes

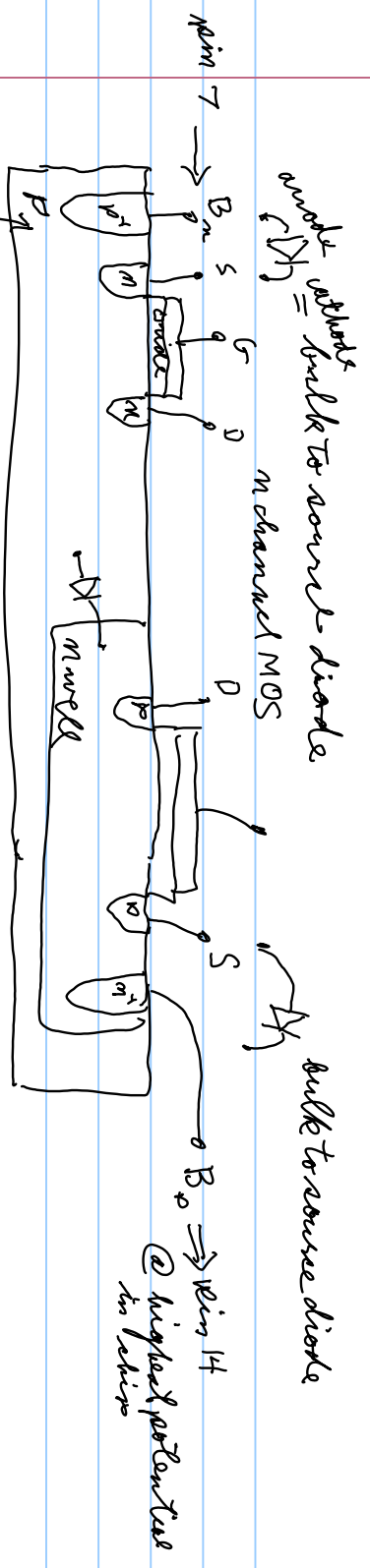


Answers for PMOS, pins 14, 2, 11

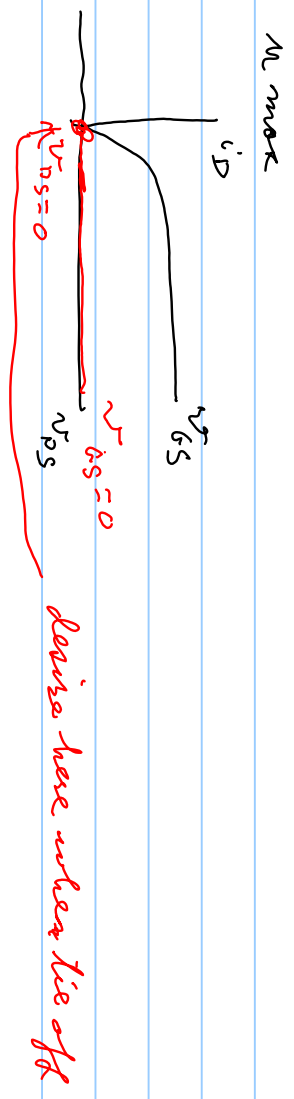
Sp @ highest potential

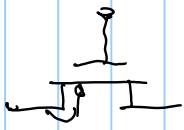
Sn @ lowest potential

4007

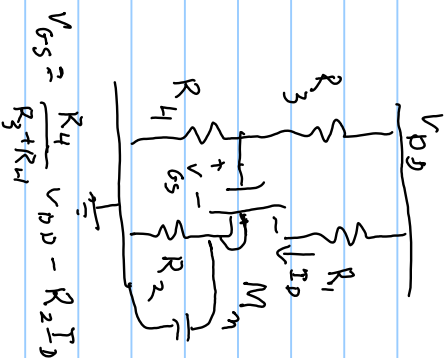
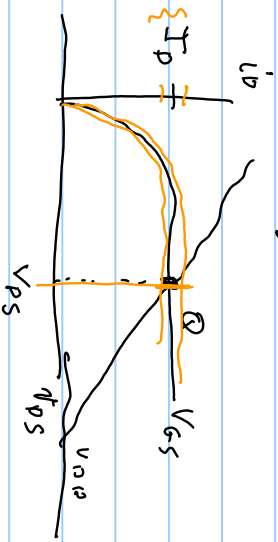


Bulk for \Rightarrow need to keep bias B to S diode
 low potential on B
 $I_{B_S} = I_{S_E}$





$$g_m = \frac{\partial I_D}{\partial V_{GS}} \Big|_Q$$



I_D is linear in the saturation region for Q

$$I_D = \frac{k_p \cdot W}{2 \cdot L} (V_{GS} - V_{T0})^2 (1 + \lambda V_{DS}) ; \frac{\partial I_D}{\partial V_{GS}} \Big|_Q = \left(\frac{2 \cdot I_D}{V_{GS} - V_{T0}} \right) \Big|_Q = \frac{2 I_D}{(V_{GS} - V_{T0})} \Big|_Q$$

$$R_{in} = -g_m R_1$$
